Working Paper
2001 Civic Census
Travel to Work Survey

The City of Calgary
Planning & Transportation Policy
Forecasting
2002 January

104-02883/

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Table of Contents

	Page
Introduction	1
1.0 Population, Employment and Jobs	2
1.1 Population, Employment and Jobs Comparison	2
1.2 Jobs and Work Type	4
1.3 Employed Persons Per Capita	5
2.0 Home to Work Travel	6
2.1 Work Trip Summary	6
2.2 Peak Hour Factor	7
3.0 Transit Modal Split Trends	8
Summary	12
Appendix A - Origin - Destination Tables	13

List of Tables

	Page
Table 1: 1999/2001 City Wide Summary of Employment and Travel to Work	1
Table 2: 1999/2001 Population, Employment and Jobs by Area of the City	2
Table 3: Jobs by Work Type -2001	5
Table 4: 2001 Daily and A.M. Peak Hour Home to Work Trips by Mode	6
Table A-1: Distribution of Jobs by Home and Place of Work	15
Table A-2: Origin - Destination Table for All Home to Work Trips	15
Table A-3: Origin - Destination Table for Home to Work Auto Person Trips	15
Table A-4: Origin - Destination Table for Home to Work Transit Person Trips	17
Table A-5: Origin - Destination Table for Home to Work Walk Person Trips	17
Table A-6: Origin - Destination Table for Home to Work Other Trips	17

List of Figures

		Page
Figure1:	Population, Employment and Jobs by Area of the City -2001	3
Figure 2:	Employed Persons Per Capita 1964 to 2001	5
Figure 3:	A.M. Peak Hour Factor 1964 to 2001	7
Figure 4:	Transit Modal Split for Work Trips from Every Section to the Place of Work Section - 1971 to 2001	9
Figure 5:	Transit Modal Split for Home to Work Trips to the Downtown from Home - 1971 to 2001	11

INTRODUCTION

The Forecasting Division of Land Use and Mobility collected information on 'place of work' and 'travel to work' as part of the 2001 Calgary Civic Census. This data will be used to monitor and forecast travel demand and may also be of interest to a diverse audience beyond those concerned with transportation in Calgary.

Even though the data was collected during the City Transit strike in the spring of 2001, interviewees were asked to provide mode of travel prior to the strike.

Table 1 shows a summary of some major indicators of employment and travel in the city for the years 1999 and 2001. In the table, the term "no fixed place of work" describes people who do not have a permanent place of work. For example: taxi drivers drive for their job; repair and service people go to work at several places during the day; and construction workers work at one place one day, and a different place the next. Where possible, the first place a person went to on the last day they worked before the survey was collected. This was not possible for all of the people with "no fixed place of work."

Table 1: 1999/2001 City Wide Summary of Employment and Travel to Work

Year			1999	2001
Total population			**842,388**	**876,464**
Total employed persons			**457,343**	**478,937**
Employed persons per capita			**0.543**	**0.546**
Total jobs			**463,500**	**487,600**
Jobs in Downtown (Central Business District or CBD)			**102,100**	**103,400**
Jobs by work type	Fixed place outside the home		**376,800**	**392,800**
	Work at home		**23,000**	**27,800**
	Telecommuters		**2,900**	**2,600**
	Beyond daily commute		**8,200**	**11,900**
	No fixed place of work	- location provided	**35,800**	**26,700**
		- location not provided	**16,800**	**25,800**
Percent of daily work trips that occur in the a.m. peak hour			**37.3%**	**36.1%**
Mode of travel to work (all day)		- Auto	**78.0%**	**77.4%**
		- Transit	**15.4%**	**15.1%**
		- Walk	**5.2%**	**5.9%**
		- Other	**1.3%**	**1.6%**

1.0 POPULATION, EMPLOYMENT AND JOBS

1.1 Population, Employment and Jobs Comparison

The 2001 Civic Census Travel to Work Survey collects informations on people living within the Calgary city limits. Table 2 shows the distribution of population, employment and jobs in eight sections of the city for the years 1999 and 2001.

Table 2: 1999/2001 Population, Employment and Jobs by Area of the City

	1999			2001		
	POPULATION	EMPLOYMENT	JOBS	POPULATION	EMPLOYMENT	JOBS
DOWNTOWN	10,643	5,538	102,100	11,063	5,138	103,400
CENTRE	73,016	45,542	74,800	72,692	44,954	74,800
SOUTH	175,046	94,045	50,400	179,878	98,116	50,900
NORTH	117,638	66,970	28,400	123,229	69,964	32,500
SOUTHEAST	46,985	26,555	30,400	51,003	29.246	33,100
SOUTHWEST	76,114	38,833	15,900	80,257	41,790	17,800
NORTHEAST	178,026	94,447	76,900	182,537	97,936	80,300
NORTHWEST	164,921	85,416	48,300	175,805	91,793	49,500

Figure 1 shows the distribution of population, employment and jobs in eight sections of the city for the year 2001. The "employment" in a section is the number of people living in the section who are employed; while "jobs" are the number of jobs located within the section. The values for population and employment are from the main census form and were collected at all households in the city. The number of jobs was obtained from the Work Travel Survey and was rounded off to the nearest 100. The percentages in the figure represent the proportion of the total city population, employment and jobs in each section.

The city's population increased by 34,076 people from 842,388 in 1999 to 876,464 in 2001: a 4.0% increase.

Jobs in the city increased by 24,100 from 463,500 in 1999 to 487,600 in 2001: a 5.2% increase.

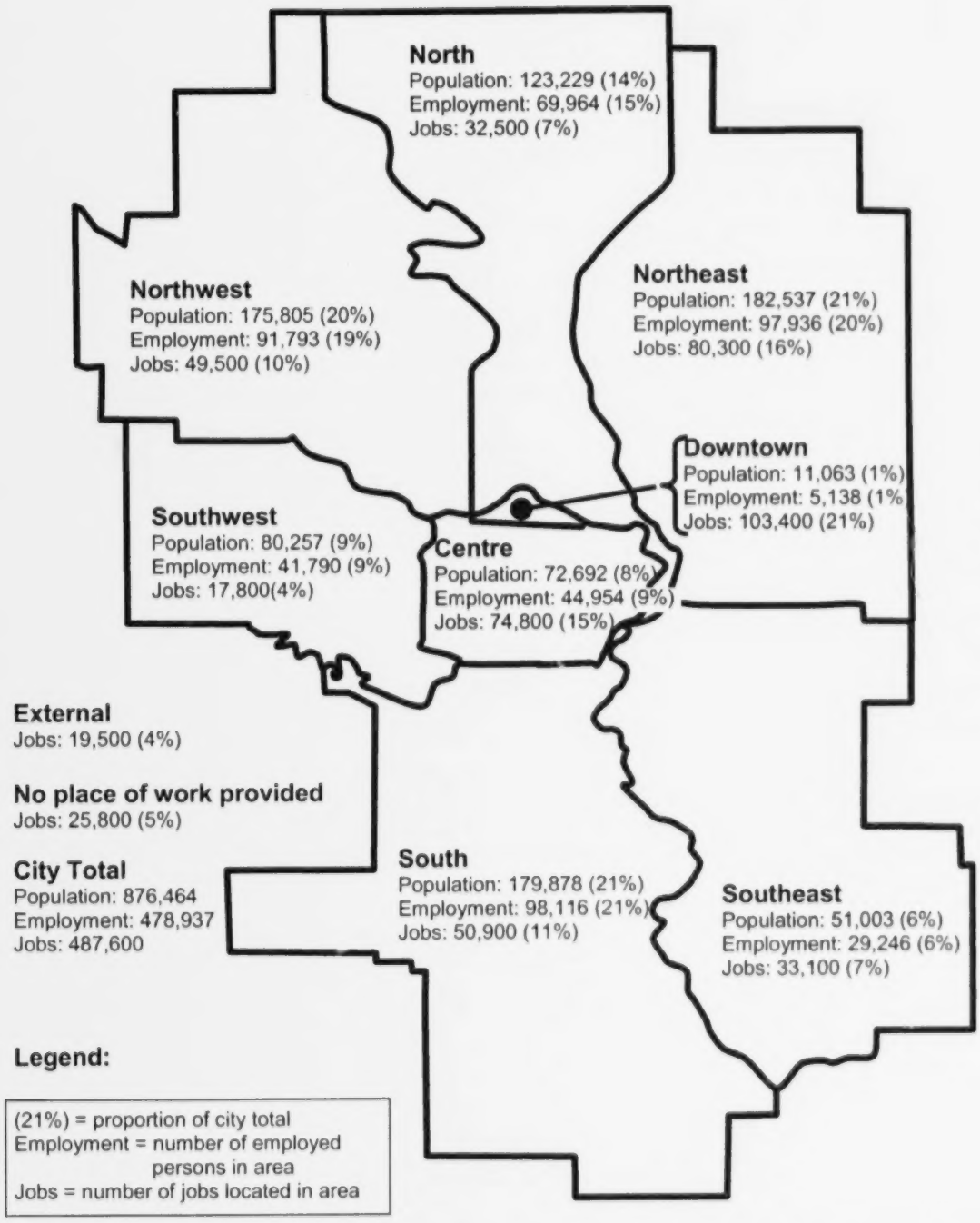

Figure 1: Population, Employment and Jobs by Area of the City - 2001

1.2 JOBS AND WORK TYPE

In the 2001 survey, jobs were classified into one of several work types. These classes were designed to identify types of work that would influence the trip making behaviour of the person with the job. The following list describes the work types in more detail:

1. **Work at a fixed location outside the home** - The Destination (workplace) is outside the home and it does not normally change over time. This is the most common type of work. Examples include: factory workers, sales clerks in stores, office workers and managers.

2. **Telecommuters** - This is a person, employed outside the home, but working at home most days.

3. **Work at home** - This is a person who has their work based at home. They do not have another Destination (workplace) outside the home, unlike the telecommuter.

4. **No fixed workplace (i.e. taxi driver)** - This is a person who does not have a fixed workplace because their work is done while travelling. An example would be a taxi driver who goes directly from their home to pick up passengers.

5. **Destination (workplace) may change from day to day (i.e. construction)** - This is a person who works in a fixed place, but the fixed place can change from one day to the next, or one week to the next. Examples include: some construction workers, some contractors, office temporary staff and contract workers.

6. **Works at more than one workplace during the day (i.e. salesman)** - This is a person whose job takes them to different locations during the day. Examples include: some appliance repair personnel, some sales people and some consultants.

7. **Workplace beyond daily commuting distance** - This occurs if the respondent's work is at a place far enough away that they are unable to travel to work on a daily basis. This can include places as close as Edmonton and as far away as the middle east.

Table 3 shows the number of jobs by work type.

Table 3: Jobs by Work Type – 2001

Work Type	Jobs	Percent
Work at fixed location outside the home	392,800	80.6%
Telecommuter	2,600	0.5%
Work at home	27,800	5.7%
No fixed place of work	6,900	1.4%
Place of work may change from day to day	30,200	6.2%
Works at more than one place during the day	15,400	3.2%
Place of work beyond commuting distance	11,900	2.4%
Total	487,600	100%

1.3 Employed Persons Per Capita

Figure 2 shows the trend in the "employed persons per capita" rate for the period 1964 to 2001. Rapid and steady growth was experienced in the period from 1964 to 1981. Between 1981 and 1996, the rate has been more stable, and declining slightly. In the period from 1996 to 1999 this rate has increased to 54.3 % due to growth in Calgary's economy. The rate of 54.6 % is slightly higher in the period from 1999 to 2001.

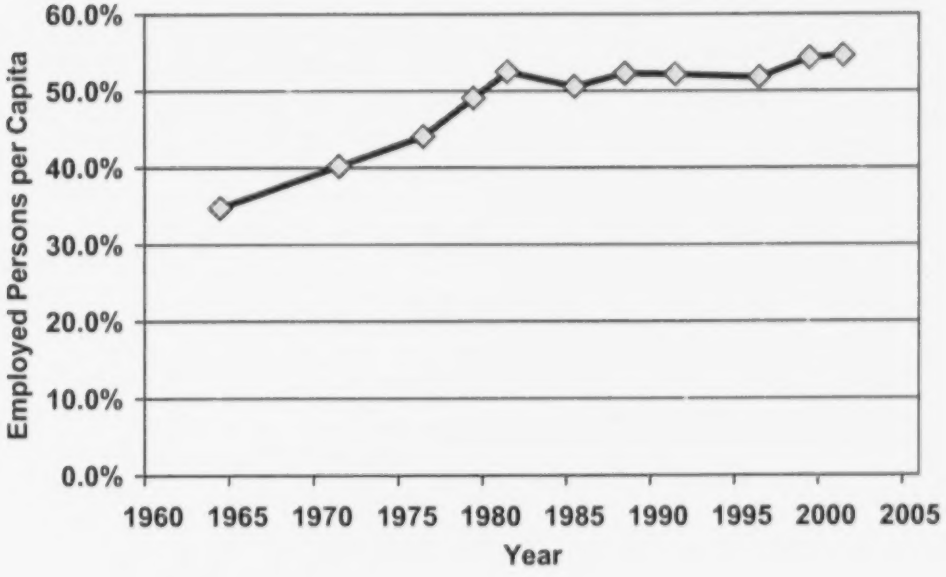

Figure 2: Employed Persons per Capita 1964 to 2001

2.0 HOME TO WORK TRAVEL

2.1 WORK TRIP SUMMARY

Table 4 shows a summary of all Home to Work trips by the various modes of travel. People who have no fixed place of work are included in the total for persons making a trip to work. However, some people are classified as "persons not making daily work trips" and these are not reflected in the table. People who do not make a daily trip include people who work at home, telecommuters, and people who work at a location that precludes a daily trip (e.g. Edmonton, Winnipeg, Seattle and China).

Table 4: 2001 Daily and A.M. Peak Hour Home to Work Trips by Mode

		24-hour		A.M. Peak (7:05 to 8:05)	
Total persons making daily work trips		437,200	100.0%	158,000	100.0%
Transit		66,000	15.1%	28,700	18.2%
Auto	**Driver : No Passengers**	280,000	64.1%	94,900	60.0%
	Driver: One Passenger	24,400	5.6%	10,400	6.6%
	Driver: More than one Passenger	5,000	1.1%	1,900	1.2%
	Passenger: Only Passenger	23,700	5.4%	8,800	5.6%
	Passenger: More than one passenger	5,400	1.2%	1,900	1.2%
	Subtotal	338,500	77.4%	117,900	74.6%
Other	**Walk**	25,700	5.9%	8,800	5.6%
	Bicycle	4,800	1.1%	2,100	1.3%
	Motorcycle	150	0.0%	20	0.0%
	Taxi	880	0.2%	150	0.1%
	Handibus	120	0.0%	30	0.0%
	Other	1050	0.3%	300	0.2%
	Subtotal	32,700	7.5%	11,400	7.2%

Not all people go to work every day. The 1991 Calgary Travel Survey found that about 18.6% of employed people did not go to work on a typical work day. This may be because of health, weather, vacation or because the job is part time. In the 2001 Travel to Work Survey this information was not collected, and is not reflected in this or other tables in this report.

The private auto continues to be the primary method that the people of Calgary use to travel to work. Transit and walk are also important options that many people use.

2.2 PEAK HOUR FACTOR

The a.m. peak hour factor is the proportion of the daily home to work trips made during the a.m. peak hour. Figure 11 shows historical values for the peak hour factor. The peak hour factor has continued to decline over the entire period covered by surveys. This means that the proportion of work trips that are made at a time of the day other than peak hours is increasing.

The 1991 survey determined that the proportion of the total trips in the peak hour that are attributable to travel to work is declining. This may reflect a reaction to increased congestion in the transportation system and/or changes in the types and conditions of jobs in Calgary. In 1999, the time of travel question was altered slightly to concentrate on arrival time at work rather than departure time from home. The time of travel question was asked the same way in 2001. The proportion of the total trips continues to decline from 37.65% in 1999 to 36.1% in 2001.

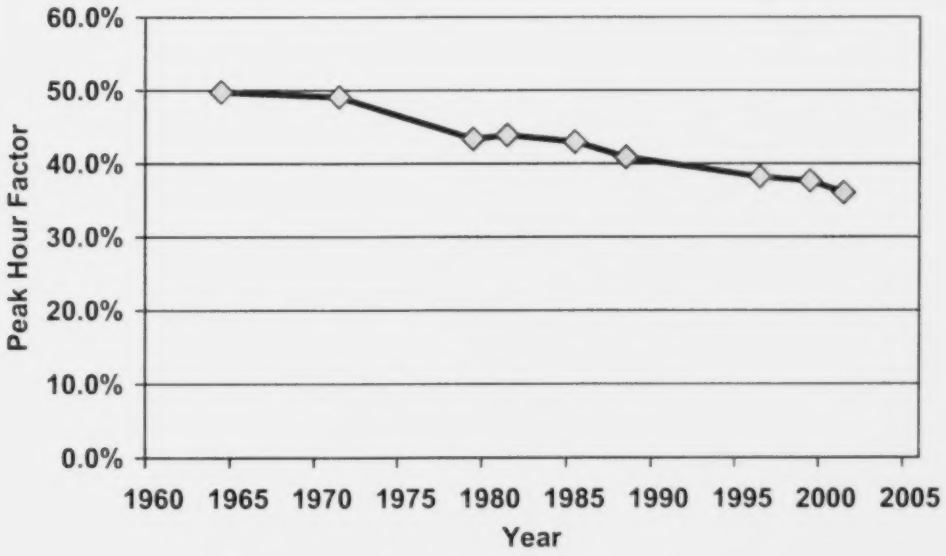

Figure 3: A.M Peak hour Factor 1964 to 2001

3.0 TRANSIT MODAL SPLIT TRENDS

In this chapter, the term "transit modal split" represents transit trips as a proportion of the sum of auto and transit trips. Trips by walk and other modes are not included. Modal split, when defined this way, expresses transit as a proportion of the "motorized" modes. Historic data since 1971 is provided.

The city wide modal split reached a high of 20% in 1979 and has declined up until 1996. On a city wide basis, the daily work trips modal split has increased between 1996 and 1999.

Figure 4 shows the **transit modal split to the place of work section**. This data examines the destination, rather than the origin of the transit trip. In other words, for example, from every section to the Northwest the 'home' could be any section and the 'work' is in the Northwest.

The table in the North says 11% in 2001. This means that the modal split for all work trips to the North area is 11%.

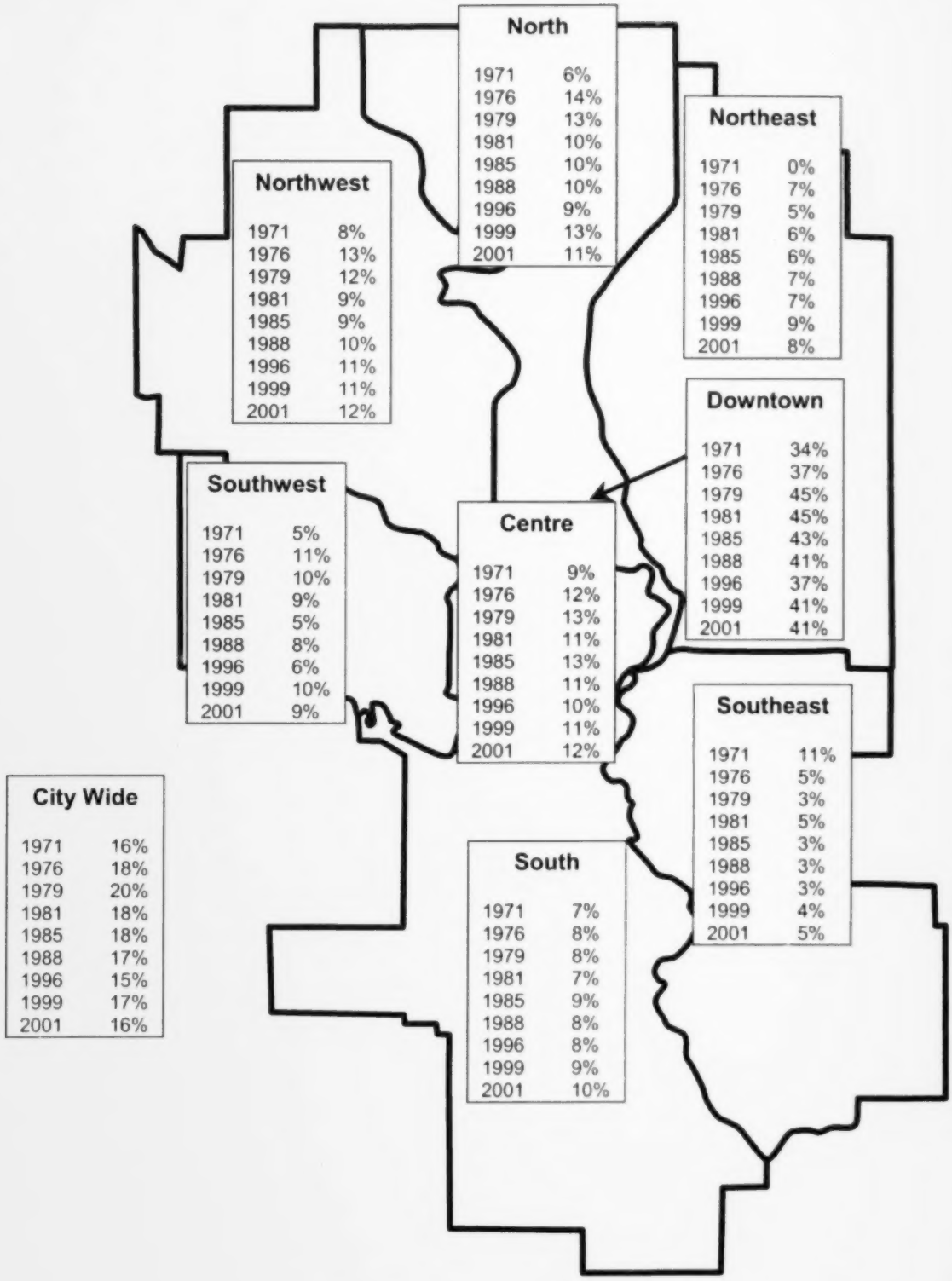

Figure 4: Transit Modal Split for Work Trips from Every Section to the Place of Work Section - 1971 to 2001

Figure 5 shows the **transit modal split from the home section to the Downtown**. On a city wide basis, the transit modal split for daily work trips to the downtown reached a high of 45% in the 1979 and 1981 surveys. The modal split declined to 37% in 1996. By 1999 the CBD modal split recovered to 1988 levels. It remains at the 1999 level of 41% in 2001.

For all sections of the city except the South, Southeast and Northeast, the transit modal split to the downtown peaked in 1979/1981. The Southeast reached a peak earlier - in 1976 - and has followed the city wide pattern of decline since then. The South peaked later - in 1985 - and then followed the city wide pattern. The Northeast, however, has fluctuated over the 1979 to 1996 period. All sections showed an increase in transit modals split from 1996 to 1999. The increase is continuing for all sections in 2001 except Northeast, Northwest and Southwest. Northeast dropped back to the 1996 level of 50%, Northwest dropped down only one percent to 35% and Southwest stayed at the same 32%.

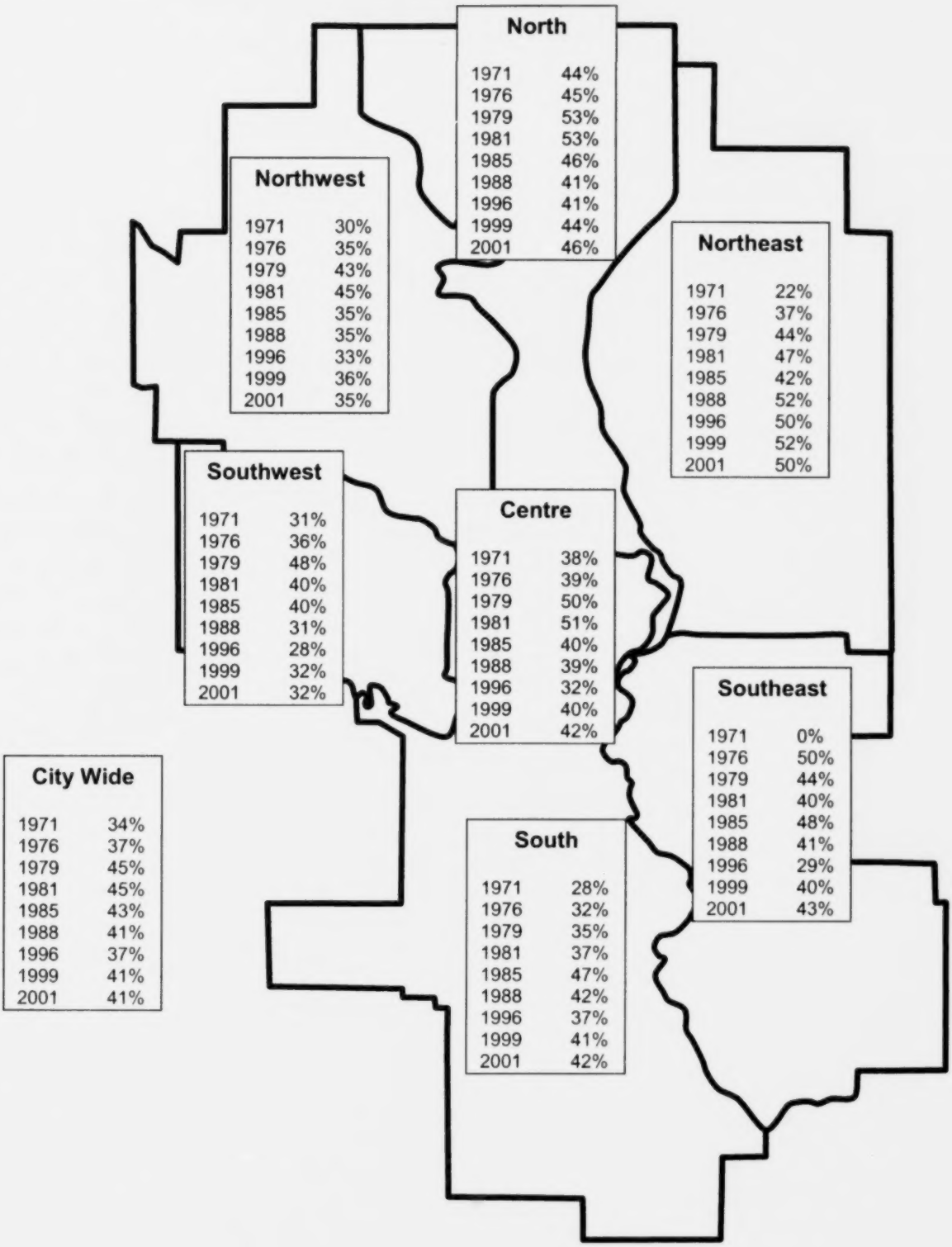

Figure 5: Transit Modal Split for Home to Work Trips to Downtown from Home - 1971 to 2001

Summary

Overall, the results of the 2001 Civic Census Travel to Work Survey show that the population and jobs growth continues to be steep from 1999 to 2001 but not as rapid as the growth trend found between 1996 and 1999.

- Since 1996 the City has experienced an increase in growth in both population and jobs.
- The population growth is concentrated on the outer edges of the city.
- Employment in Calgary has grown to 487,600, a jump of 24,100 jobs in the last two years.
- 54.6% of Calgarians are employed both full time and part time, exceeding the previous high of 54.3 % in 1999.
- Calgarians working at home have increased from 23,000 to 27,800 in the last two years.
- Figures show that there are 103,400 jobs in the downtown held by Calgarians, an increase of 1300 jobs in the last two years.
- The proportion of Home to Work trips that are made during the morning peak hour continues to decline.
- The automobile is the dominant mode of travel in Calgary, although transit and walk are important in some markets.
- Calgary Transit is the mode of transportation for 41% of Calgarians who work downtown, the same rate as in 1999.
- The modal split to transit has slightly decreased from 1999 to 2001 but is still higher than the 1996 rate. The percentage of people using transit to go to work to the downtown stayed the same as in 1999.

APPENDIX A

ORIGIN - DESTINATION TABLES

APPENDIX A - ORIGIN - DESTINATION TABLES

The tables in this section show the distribution of jobs and trips between the home sections and the work sections.

Table A-1 shows the distribution of all **jobs** in the city. People who work at home are assigned to the area where they live for the place of work. People who work beyond daily commuting distance and in the Calgary Region are included under External. People with no fixed place of work are assigned to the area they first travel to, if that is available, or to other if no first place of work is available.

Table A-2 shows the distribution of home to work **trips**. This excludes people who work at home or beyond daily commuting distance. The table does not take into account work attendance. As noted earlier not all people who work, work on any given day.

Table A-3 shows the distribution of home to work trips by **Auto drivers and Auto passengers**.

Table A-1; Distribution of Jobs by Home and Place of Work

	Northwest	North	Northeast	Southeast	Downtown	Centre	South	Southwest	External	Other	Total
Northwest	28600	6600	11300	2200	21500	9900	3100	2300	3800	4400	93700
North	7300	12900	13500	2900	16300	8800	2300	1300	3000	3400	71700
Northeast	3600	6100	35300	11600	12100	13900	4200	1400	4600	6600	99400
Southeast	800	600	3400	6600	5400	5000	4500	500	1100	1500	29400
Downtown	400	200	500	100	3000	700	100	0	100	200	5300
Centre	2400	1900	4100	1800	13800	13900	2900	1500	1400	2500	46200
South	3200	2500	8700	6500	20000	15800	30800	2100	4000	5500	99100
Southwest	3200	1700	3500	1400	11300	6800	3000	8700	1500	1700	42800
Total	49500	32500	80300	33100	103400	74800	50900	17800	19500	25800	487600

Table A-2: Origin Destination Table for All Home to Work Trips

	Northwest	North	Northeast	Southeast	Downtown	Centre	South	Southwest	External	Other	Total
Northwest	21900	6400	11100	2100	21100	9600	3000	2200	1500	4100	83000
North	7000	9200	13200	2800	15900	8700	2200	1300	1200	3200	64700
Northeast	3500	6000	31400	11500	11900	13600	4100	1300	2000	6400	91700
Southeast	800	600	3300	4600	5300	5000	4400	500	300	1400	26200
Downtown	300	200	500	100	2700	700	100	0	0	200	4800
Centre	2300	1800	4000	1800	13300	10700	2700	1400	600	2400	41000
South	3200	2500	8700	6500	19700	15500	23300	2100	1600	5200	88300
Southwest	3100	1700	3400	1300	11000	6600	3000	5300	500	1600	37500
Total	42100	28400	75600	30700	100900	70400	42800	14100	7700	24500	437200

Table A-3: Origin Destination Table for All Home to Work Auto Person Trips

	Northwest	North	Northeast	Southeast	Downtown	Centre	South	Southwest	External	Other	Total
Northwest	16700	5700	10600	2000	12800	8300	2700	2000	1400	3900	66100
North	5800	6600	11900	2800	7000	7100	1900	1100	1200	2800	48200
Northeast	3000	5200	25700	10500	5800	11600	3500	1100	1900	5600	73900
Southeast	700	600	3200	4000	3000	4400	4200	500	300	1300	22200
Downtown	100	100	200	100	100	200	100	0	0	100	1000
Centre	1700	1200	3400	1600	4600	6200	2200	1100	600	2000	24600
South	2900	2200	8300	6200	11300	14000	19000	2000	1500	4900	72300
Southwest	2800	1500	3200	1300	7400	5600	2700	3800	500	1400	30200
Total	33700	23100	66500	28500	52000	57400	36300	11600	7400	22000	338500

Table A-4 shows the distribution of home to work trips made by **transit**. Park n' ride and Kiss n' ride are included.

Table A-5 shows the distribution of home to work **walk** trips.

Table A-6 shows the distribution of home to work **other** trips.

Table A-4: Origin – Destination Table for Home to Work Transit Person Trips

	Northwest	North	Northeast	Southeast	Downtown	Centre	South	Southwest	External	Other	Total
Northwest	1800	500	400	100	7100	1000	300	200	0	200	11600
North	900	1000	1100	100	6000	1100	200	100	0	100	10600
Northeast	500	700	3400	800	5900	1900	600	300	0	400	14500
Southeast	100	0	100	100	2300	400	200	0	0	100	3300
Downtown	200	0	300	0	400	200	100	0	0	0	1200
Centre	500	200	400	100	3300	900	400	200	0	200	6200
South	300	300	300	300	8200	1400	2000	100	0	200	13100
Southwest	200	100	200	0	3500	800	300	300	0	100	5500
Total	4500	2800	6200	1500	36700	7700	4100	1200	0	1300	66000

Table A-5: Origin – Destination Table for Home to Work Walk Person Trips

	Northwest	North	Northeast	Southeast	Downtown	Centre	South	Southwest	External	Other	Total
Northwest	3000	100	0	0	600	100	0	0	0	0	3800
North	100	1400	200	0	2300	300	0	0	0	100	4400
Northeast	0	100	2000	0	0	0	0	0	0	0	2100
Southeast	0	0	0	400	0	100	0	0	0	0	500
Downtown	0	100	0	0	2100	300	0	0	0	0	2500
Centre	100	200	0	0	4900	3200	100	100	0	100	8700
South	0	0	0	0	0	200	2100	0	0	0	2300
Southwest	0	0	0	0	0	100	0	1200	0	0	1300
Total	3200	1900	2200	400	9900	4300	2200	1300	0	200	25600

Table A-6: Origin – Destination Table for Home to Work Other Person Trips

	Northwest	North	Northeast	Southeast	Downtown	Centre	South	Southwest	External	Other	Total
Northwest	300	100	0	0	700	200	0	0	100	100	1500
North	200	200	100	0	700	200	100	0	0	0	1500
Northeast	0	100	400	100	100	100	0	0	100	200	1100
Southeast	0	0	0	100	0	100	0	0	0	0	200
Downtown	0	0	0	0	0	0	0	0	0	0	0
Centre	100	100	100	0	500	400	100	100	0	200	1600
South	0	0	0	0	200	0	200	0	0	200	600
Southwest	0	0	0	0	200	100	0	100	0	100	500
Total	600	500	600	200	2400	1100	400	200	200	800	7000